

REMARKS

In the Office Action, the Examiner rejected claims 1-20. By this paper, Applicants amended claims 1 and 17-20, cancelled claim 14, and added new claims 28-35 to clarify features of the present techniques. These amendments do not add any new matter. Support for the new claims can be found in the specification on: page 7, ¶ 31; pages 8-9, ¶¶ 34-37; pages 14-20, ¶¶ 53-66; Figs. 1, 2, and 11-12(b). Upon entry of these amendments, claims 1-13, 15-20, and 28-35 will be pending in the present application and are believed to be in condition for allowance. In view of the foregoing amendments and the following remarks, Applicants respectfully request reconsideration and allowance of all pending claims.

Cancellation of Claims 21-27

Applicants note that claims 21-27 are *not* withdrawn from consideration, as indicated by the Examiner in the current Office Action. *See* Office Action, page 1. Instead, Applicants previously *cancelled* claims 21-27 without prejudice for possible inclusion in a divisional application. *See* Response to Requirement for Restriction Mailed March 24, 2005, page 5.

Claim Rejections under 35 U.S.C. § 102

In the Office Action, the Examiner rejected claims 1-20 under U.S.C. § 102(b) as anticipated by Kendrick et al. (U.S. Patent No. 6,204,344). Claim 1 is independent. Applicants respectfully traverse this rejection.

Legal Precedent

Anticipation under Section 102 can be found only if a single reference shows exactly what is claimed. *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 U.S.P.Q. 773 (Fed. Cir. 1985). The reference must teach each and every element or step of the claim. *Atlas Powder v. E.I. du Pont*, 750 F.2d 1569 (Fed. Cir. 1984). Indeed, every element of the claimed invention must be *identically* shown in the reference. *In re Bond*, 910 F.2d 831, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990). The prior art reference must show the *identical* invention “in as complete detail as contained in the ... claim” to support a case of anticipation. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 U.S.P.Q. 2d 1913, 1920 (Fed. Cir. 1989).

Further, the pending claims must be given an interpretation that is reasonable and consistent with the *specification*. See *In re Prater*, 415 F.2d 1393, 1404-05, 162 U.S.P.Q. 541, 550-51 (C.C.P.A. 1969) (emphasis added); M.P.E.P. §§ 608.01(o) and 2111. Indeed, the specification is “the primary basis for construing the claims.” See *Phillips v. AWH Corp.*, No. 03-1269, -1286, at 13-16 (Fed. Cir. July 12, 2005) (*en banc*). One should rely *heavily* on the written description for guidance as to the meaning of the claims. See *id.*

Interpretation of the claims must also be consistent with the interpretation that *one of ordinary skill in the art* would reach. See *In re Cortright*, 165 F.3d 1353, 1359, 49 U.S.P.Q.2d 1464, 1468 (Fed. Cir. 1999); M.P.E.P. § 2111. “The inquiry into how a person of ordinary skill in the art understands a claim term provides an objective baseline

from which to begin claim interpretation.” *See Collegenet, Inc. v. ApplyYourself, Inc.*, No. 04-1202, -1222, 1251, at 8-9 (Fed. Cir. August 2, 2005) (quoting *Phillips*, No. 03-1269, -1286, at 16). The Federal Circuit has made clear that derivation of a claim term must be based on “usage in the ordinary and accustomed meaning of the words amongst artisans of ordinary skill in the relevant art.” *See id.*

Deficiencies of Kendrick et al.

Independent claim 1 recites, *inter alia*, “withdrawing a portion of the slurry as an intermediate product . . . [and] passing the intermediate product through a heated conduit . . . [and] *separating* the vapor from the concentrated intermediate product by *centrifugal* force in a *cyclone*.” (Emphasis added). In contrast, the Kendrick et al. reference discloses that polymerization effluent is discharged to a *flash tank* 11 (*not* a cyclone). *See* col. 9, lines 8-14; Figures 1 and 2. The flash tank 11 separates “vaporized liquid medium from polymer/slurry solids,” relying on gravity in an internal disengagement space to separate the vapor from the solids. *See id.* Conversely, a cyclone utilizes centrifugal forces to separate vapor from solids. *See, e.g.*, Specification, pages 15-16, ¶¶ 56-57; Office Action, pages 2-3.

Plainly, in view of the present specification and the customary meaning in the art, one of ordinary skill in the art would *not* confuse a “flash tank” with a “cyclone.” *See, e.g.*, Specification, page 3, ¶¶ 09 and 10; pages 8-9, ¶¶ 34-36; page 15, ¶ 55. The flash tank 11 is *not* designed to provide the internal centrifugal forces associated with the design and operation of a cyclone. *See, e.g.*, Kendrick, col. 9, lines 9-67; Figures 1 and 2;

Specification, pages 15-16, ¶¶ 55-57. Instead, the flash tank 11 has the typical flash vessel design with an upper disengaging section (i.e., for separation of solids and vapor), a conical bottom for collecting and routing solids, and does *not* provide for separation via centrifugal forces as found in a cyclone. *See* Kendrick, Figures 1 and 2; Specification, pages 19-20; ¶ 66; Figures 12(a) and 12(b). Therefore, the Examiner equating of the Kendrick et al. flash tank 11 with a cyclone is incorrect. *See* Office Action, pages 2 -3.

In sum, the polymerization effluent in Kendrick et al. is *not* discharged through the conduit 9 to a cyclone, as claimed. *See* Kendrick, Figures 1 and 2. Therefore, the cited reference cannot anticipate independent claims 1 or the claims dependent thereon. Accordingly, Applicants respectfully request withdrawal of the rejections of claims 1-13 and 15-20 under 35 U.S.C. § 102.

Claim Rejections under 35 U.S.C. § 103(a)

The Examiner alternatively rejected claims 1-20 under U.S.C. § 103(a) as obvious over Kendrick et al. (U.S. Patent No. 6,204,344). The Examiner also redundantly rejected claims 2-6, 8-13, 16-17 and 19-20 under 35 U.S.C. § 103(a) as obvious over the same Kendrick et al. reference (U.S. Patent No. 6,204,344). Applicants respectfully traverse these rejections.

Legal Precedent

The burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (PTO Bd. App. 1979). To

establish a *prima facie* case, the Examiner must not only show that the combination includes *all* of the claimed elements, but also a convincing line of reason as to why one of ordinary skill in the art would have found the claimed invention to have been obvious in light of the teachings of the references. *Ex parte Clapp*, 227 U.S.P.Q. 972 (B.P.A.I. 1985). The Examiner must provide objective evidence, rather than subjective belief and unknown authority, of the requisite motivation or suggestion to combine or modify the cited references. *In re Lee*, 61 U.S.P.Q.2d. 1430 (Fed. Cir. 2002). One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

Deficiencies of Kendrick et al.

As discussed above, the Kendrick et al. reference does *not* disclose “separating the vapor from the concentrated intermediate product by centrifugal force in a cyclone,” as recited in independent claim 1. Instead, the Kendrick et al. polymerization effluent is discharged from the reactor through a conduit 9 (having a line heater 10) to a *flash* tank 11 which is part of a two-stage *flash* configuration. *See* Kendrick, col. 1, lines 57-66; col. 2, lines 37-67; col. 5, lines 38-53; col. 7, lines 46-49; col. 9, lines 9-67; Figures 1 and 2. The flash tank 11 is undoubtedly *not* a cyclone. *See* col. 9, lines 8-14; Figures 1 and 2. Therefore, the Examiner has failed to establish a *prima facie* case of obviousness with regard to claim 1 and its dependent claims. Accordingly, Applicants respectfully request that the Examiner withdraw the foregoing rejections under 35 U.S.C. § 103(a).

Deficiencies of the Rejection

In addition, the Examiner has failed to provide a difference, a modification, and an explanation which would support an obviousness rejection and which might be responded to by Applicants. “It is important for an examiner to properly communicate the basis for a rejection so that the issues can be identified early and the applicant can be given a fair opportunity to reply.” M.P.E.P., §706.02(j). In this instance, Applicants are unfairly prejudiced by not being provided what the Examiner considers to be the distinction between the reference and the claims, the proposed modification, and the presumed suggestion or motivation to make the modification as provided by the reference. The failure of the Examiner to provide the noted information precludes a *prima facie* case of obviousness from being established.

Such a *prima facie* case must demonstrate some suggestion or motivation to modify the reference, a reasonable expectation of success, and that all the claim elements are taught or suggested by the prior art reference. M.P.E.P., §706.02(j). Applicants respectfully submit that the Examiner did not establish these required components of a *prima facie* case based on the Kendrick et al. reference. As discussed, the Kendrick et al. reference fails to teach or suggest all the elements of claims 1-13 and 15-20. Further, there is no suggestion or motivation within the Kendrick et al. reference to modify the disclosed configuration to correspond to the recitations in the present claims. Likewise, considering the silence of the Kendrick et al. reference as to any suggestion to modify the disclosed configuration, the Kendrick et al. reference is also silent as to the likelihood of success of any such modification. Accordingly, Applicants respectfully request that the

Examiner withdraw the rejections under 35 U.S.C. § 103 and allow claims 1-13 and 15-20.

The Examiner's Assertions of Inherency are Misplaced

In the Office Action, the Examiner apparently contended that many of the features of the present claims are inherent in Kendrick et al. *See, e.g.*, Office Action, page 3. However, if the Examiner is to rely on a theory of inherency, the extrinsic evidence must make clear that the missing descriptive matter is *necessarily* present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. *In re Robertson*, 169 F.3d 743, 49 U.S.P.Q.2d 1949 (Fed. Cir. 1999). Here, it is clear that the Kendrick flash tank 11 is *not* a cyclone, and therefore, the various claim features regarding present embodiments of cyclones are *not* necessarily present in the Kendrick et al. system. *See* Office Action, page 3; Kendrick, col. 9, lines 9-67; Figures 1 and 2.

Contrary to claim 1, the Kendrick et al. system employs a two-stage flash having a first flash vessel (flash tank 11) and a second flash vessel (flash tank 15). *See* Kendrick, col. 1, lines 57-66; col. 2, lines 37-67; col. 5, lines 38-53; col. 7, lines 46-49; col. 9, lines 9-67. Again, the Kendrick et al. flash tank 11 does *not* rely on significant centrifugal forces (as is found in a cyclone) to affect the separation of vapor and the recovery of solid components from an entering vaporizing slurry. *See, e.g.*, Specification, pages 15-16, ¶¶ 56-57; Office Action, pages 2-3. To be sure, features recited in the present claims with regard to a cyclone are *not* inherent in the flash operation taught by Kendrick et al. Accordingly, Applicants respectfully traverse the Examiner's assertions of inherency.

See, e.g., Office Action, page 3. Moreover, Applicant stress that the recited features are not necessarily present in cyclone systems generally but are unique characteristics of the presently-claimed polymerization/cyclone systems and their operation.

Request Evidence to Support Official Notice

Further, claimed features (e.g., percent of vapor separated, percent of solids separated, etc.) with regard to present embodiments of the cyclonic system and its operation are *not* within the generic disclosure of the prior art, as incorrectly asserted by the Examiner. *See* Office Action, page 3. Indeed, the present claims recite unique features not found in the prior art at least with regard to the cyclonic processing of the polymer slurry discharged from the reactor. The Examiner asserted that features recited in the present claim features are a “generic disclosure of the prior art,” “result effective variables,” or are “simply known as conventional,” and so on. *See* Office Action, pages 3-4. Thus, the Examiner has essentially taken Official Notice of facts outside of the record that the Examiner apparently believes are capable of demonstration as being “well-known” in the art. *See id.* Moreover, Applicants emphasize that the subjected matter of the present claims is not of a “notorious character” and are clearly not “capable of such instant and unquestionable demonstration as to defy dispute.” *See* M.P.E.P. § 2144.03.

Therefore, in accordance with M.P.E.P. § 2144.03, Applicants hereby seasonably traverse and challenge the Examiner’s use of Official Notice. Specifically, Applicants respectfully request that the Examiner produce evidence in support of the Examiner’s position as soon as practicable during prosecution and that the Examiner add a reference

to the rejection in the next Official Action. If the Examiner finds such a reference and applies it in combination with the presently cited references, Applicants further request that the Examiner specifically identify the portion of the newly cited reference that discloses the allegedly “well known” elements of the instant claim, as discussed above, or withdraw the rejection.

New Claims

As indicated, Applicants added new claims 28-35. New independent claim 28 recites, *inter alia*, “separating vapor from the heated discharge slurry via centrifugal forces.” Conversely, the Kendrick et al. reference cited by the Examiner discloses a flash tank which does not rely on centrifugal forces to affect separation of the diluent from the polymer solids. Instead, the Kendrick et al. system relies on disengagement and separation by gravity in a typical flash tank operation. *See* Office Action, page 3; Kendrick, col. 9, lines 9-67. Therefore, new claim 28 and its dependent claims are believed to be in condition for allowance.

Payment of Fees and Authorization for Extensions of Time

As indicated, Applicants hereby authorize the Commissioner to charge the requisite fee of \$180.00 for the enclosed Supplemental Information Disclosure Statement to the credit card listed on the attached PTO-2038. If any additional fees, including fees for extensions of time and other reasons, are deemed necessary to advance prosecution of the present application, at this or any other time, Applicants hereby authorize the


Commissioner to charge such requisite fees to Deposit Account No. 06-1315; Order No. CPCM:0016/FLE (210441US). In accordance with 37 C.F.R. § 1.136, Applicants hereby provide a general authorization to treat this and any future reply requiring an extension of time as incorporating a request thereof.

Conclusion

Applicants respectfully submit that all pending claims should be in condition for allowance. However, if the Examiner believes certain amendments are necessary to clarify the present claims or if the Examiner wishes to resolve any other issues by way of a telephone conference, the Examiner is kindly invited to contact the undersigned attorney at the telephone number indicated below.

Respectfully submitted,

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Michael G. Fletcher
Reg. No. 32,777
FLETCHER YODER
P.O. Box 692289
Houston, TX 77269-2289
(281) 970-4545